UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635;381	08/05/2003	Martin S. Maltz	D/A2290	1288

7590 04/30/2007

ORTIZ & LOPEZ, PLLC
Patent Attorneys
P.O. Box 4484
Albuquerque, NM 87196-4484

EXAMINER
KAU, STEVEN Y

ART UNIT	PAPER NUMBER
2625	

MAIL DATE	DELIVERY MODE
04/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **3** MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>05 August 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-22</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-22</u> is/are rejected.

7)☒ Claim(s) <u>14 and 15</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>05 August 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>8/5/2003</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1.   The information disclosure statement (IDS) submitted on August 5, 2003 is in

compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure

statement is being considered by the examiner.

· *Claim Objections*

2.   Claims 14 and 15 are objected to because of the following informalities:

duplicated numbers are in the claims. The second "Claim 14" and "Claim 15" are

renumbered as "Claim 16" and "Claim 17", respectively. All claims after the second set

of duplicated claims are renumbered accordingly for continuing application prosecution.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-8 &10-22 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Mahy (US 5,832,109) in view of Ito et al (Ito) (US 6,437,792) further in view of

Holub (US 6,750,992).

With regard to claim 10, Mahy discloses a method and apparatus for calculating

color gamut, in that he teaches a system, comprising: a plurality of color values

automatically provided as input to an image processing device {e.g. a multidimensional

color printer} (col 1, lines 16-40), wherein said image processing device is under a
control of a particular dimensional order {e.g. a printer model for color analysis} (col 8,
lines 34-45, & col 12, lines 19-23, & col 13, lines 46-55); a color sensor for dynamically
determining {e.g. color measurement} (col 3, lines 62-67 & col 4, lines 1-14) which color
value among said plurality of color values has attained a gamut limit {e.g. gamut
boundaries} (col 12, lines 19-23); and a transformation module for automatically
reducing said particular dimensional order based on determining which color value
among said plurality of color values has attained said gamut limit, thereby providing
improved control for colors that are located external to said gamut (col 12, lines 24-33).

Mahy differs from Claim 10, in that he does not teach a plurality of color values
automatically provided as input.

Ito discloses an image processing apparatus and method, in that he teaches a
plurality of color values automatically provided as input (Figure 1, col 1, lines 60-67 &
col 2, lines 1-9).

Therefore, it would have been obvious to one of ordinary skill in the art at the
time of the invention to have modified Mahy to include a plurality of color values
automatically provided as input taught by Ito to improve color reproducibility (col 6, lines
31-34).

With regard to claim 11, Mahy teaches said transformation module further
comprises a transformation module for transforming said particular dimensional order, in
response to dynamically determining which color value among said plurality of color
values has attained gamut limit (col 12, lines 19-32).

With regard to claim 12, Mahy teaches that said particular dimensional order comprises a three-dimensional order (Figure 2, col 6, lines 36-39).

With regard to claim 13, Mahy teaches said transformation module further comprises a transformation module for reducing said three-dimensional order to a two-dimensional order (col 12, lines 19-23).

With regard to claim 14, Mahy teaches said transformation module reduces said three-dimensional order to said two-dimensional order in response to determining which colors among said plurality of colors have attained said gamut limit (col 12, lines 19-32).

With regard to claim 15, Mahy teaches said transformation module further comprises a transformation module for reducing said three-dimensional order to a one-dimensional order (col 6, lines 44-47).

With regard to claim 16, Mahy differs from claim 16, in that he does not teach reduces said three-dimensional order to said one-dimensional order in response to determining which color among said plurality of colors has attained said gamut limit.

Ito teaches said transformation module reduces said three-dimensional order to said one-dimensional order in response to determining which color among said plurality of colors has attained said gamut limit (col 5, lines 10-25 & col 7, lines 47-55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Mahy to include said transformation module reduces said three-dimensional order to said one-dimensional order in response to determining which color among said plurality of colors has attained said gamut limit taught by Ito to improve color reproducibility (col 6, lines 31-34).

With regard to claims 17 and 18, Mahy differs from claims 17 and 18, in that he does not teach color sensor.

Holub discloses a system for distributing and controlling color reproduction, in that he teaches said color sensor comprises an offline and inline sensor (Figure 3A, col 11, lines 66-67 & col 12, lines 1-19 and Figure 3B, col 15, lines 42-67 & col 16, lines 1-24).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Mahy to include said color sensor comprises an offline and inline sensor taught by Holub to improve communication, control and quality of color reproduction (col 3, lines 3-15).

With regard to claim 19, Mahy teaches that the system in claim 10 further comprising a color rendering device associated with said transformation module and wherein said transformation module is integrated with said image processing device (col 1, lines 16-40 & col 8, lines 34-45).

With regard to claim 20, Mahy differs from claim 20, in that he does not teach an iterative controller whose iterative output is input to said color rendering device, such that said iterative output of said iterative controller reflects a plurality of compensated color values requiring correction for rendering variations thereof.

Ito teaches that an iterative controller {e.g. color management system, a central processing unit, etc.} whose iterative output is input to said color rendering device, such that said iterative output of said iterative controller reflects a plurality of compensated

color values requiring correction for rendering variations thereof (Figures 1 & 27, col 1, lines 60-67 & col 2, lines 1-9, & col 18, lines 25-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Mahy to include an iterative controller whose iterative output is input to said color rendering device, such that said iterative output of said iterative controller reflects a plurality of compensated color values requiring correction for rendering variations thereof taught by Ito to improve color reproducibility (col 6, lines 31-34).

With regard to claim 21, Mahy teaches said color rendering device comprises a printer (col 1, lines 16-40 & col 8, lines 34-45).

With regard to claim 22, Mahy differs from claim 22, in that he does not teach said color rendering device comprises a photocopy machine.

Ito teaches said color rendering device comprises a photocopy machine {interpretation: in Ito's color management system, it must include a photocopy machine for converting an image from an input to an image corresponding to the color gamut of an output device.} (Figure 1, col 1, lines 60-67 & col 2, lines 1-9).

With regard to claim 1, the structure elements of system claim 10 perform all steps of method claim 1. Thus claim 1 is rejected under 103(a) for the same reason discussed in the rejection of claim 10.

With regard to claim 2, the structure elements of system claim 11 perform all steps of method claim 2. Thus claim 2 is rejected under 103(a) for the same reason discussed in the rejection of claim 11.

With regard to claim 3, the structure elements of system claim 12 perform all steps of method claim 2. Thus claim 3 is rejected under 103(a) for the same reason discussed in the rejection of claim 12.

With regard to claim 4, the structure elements of system claim 13 perform all steps of method claim 4. Thus claim 4 is rejected under 103(a) for the same reason discussed in the rejection of claim 13.

With regard to claim 5, the structure elements of system claim 15 perform all steps of method claim 5. Thus claim 5 is rejected under 103(a) for the same reason discussed in the rejection of claim 15.

With regard to claim 6, the structure elements of system claims 17 & 18 perform all steps of method claim 6. Thus claim 6 is rejected under 103(a) for the same reason discussed in the rejection of claims 17 & 18.

With regard to claim 7, the structure elements of system claim 17 perform all steps of method claim 7. Thus claim 7 is rejected under 103(a) for the same reason discussed in the rejection of claim 17.

With regard to claim 8, the structure elements of system claim 18 perform all steps of method claim 8. Thus claim 8 is rejected under 103(a) for the same reason discussed in the rejection of claim 18.

5.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al (Ito) (US 6,437,792) in view of Holub (US 6,750,992).

With regard to claim 9, Ito teaches automatically providing a plurality of color values as input to an image processing device (Figure 1, col 1, lines 60-67 & col 2, lines 1-9), wherein said image processing device is under a control of a three-dimensional order (Figure 9, col 4, lines 44-56 & col 21, lines 43-51); dynamically determining utilizing a color sensor, which color among a plurality of three colors has attained said gamut limit, wherein said plurality of three colors comprises cyan, magenta, and yellow (col 12, lines 25-36); transforming said three-dimensional order, in response to dynamically determining which color value among said plurality of three color values has attained said gamut limit (Figures 9 &33, col 4, lines 44-56 & col 21, lines 43-51); and automatically reducing said three-dimensional order, thereby providing improved control for colors that are located external to said gamut (col 21, lines 43-51).

Ito differs from claim 9, in that he does not teach a color sensor.

Holub teaches a color sensor (Figure 3, col 11, lines 66-67 & col 12, lines 1-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Ito to include said color sensor taught by Holub to improve communication, control and quality of color reproduction (col 3, lines 3-15).

Correspondence Information

6.   Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement is traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one

or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).
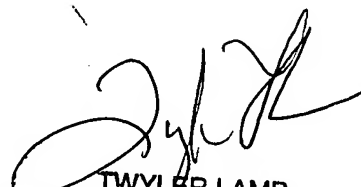
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Kau whose telephone number is (571) 270-1120. The examiner can normally be reached on Monday to Friday, from 8:30 AM – 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler Lamb can be reached on (571) 272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Kau
Patent Examiner
Division: 2625
April 19, 2007

TWYLER LAMB
SUPERVISORY PATENT EXAMINER